IN THE SPECIFICATION:

Please replace paragraph number **[0004]** with the following rewritten paragraph:

[0004] In order to reduce size and increase durability, various methods have been developed in an attempt to make improvements over this packaging method. U.S. Patent 5,867,368 to Glenn and U.S. Patent 5,357,056 to Nagano, for example, disclose packages for optically interactive devices wherein flip-chip attachment is used instead of wire bonding for more durable connections and increased device performance. U.S. Patent 6,351,027 to Giboney et al. discloses a chip-mounted enclosure wherein a sidewall piece is mounted directly to a semiconductor die to surround sensing or light-emitting circuitry and a transparent cover is attached over the sidewall piece. U.S. Patent 6,384,473 to Peterson et al. discloses a ~~stacked-~~stacked-plate packaging structure with an integral window that reduces fabrication steps and improves the sealing properties of the package. U.S. Patent 6,147,389 to Stern et al. discloses an image sensor package with a stand-off frame for a window and reference plane members for simple and accurate mounting of an image sensor within the package. While these and other designs offer some packaging improvements, they still raise issues regarding numerous housing elements requiring multiple steps of assembly and difficulties with hermetically sealing the packages. Further, the incorporation of these structures into larger circuit assemblies often involves the use of delicate leads or solder pad arrangements which are not suitable for today's high-speed automated assembly techniques.

Please replace paragraph number **[0020]** with the following rewritten paragraph:

[0020] FIG. 1 is a perspective top view of a leadless image sensor package 1 of the present invention showing features which are common to the various embodiments of the invention. A package shell 2 includes a top surface 4 having an aperture 6 extending downwardly through package shell 2. While it is presently preferred that package shell 2 be constructed of a ceramic material, other materials such as molded plastic could also be used if capable of maintaining package tolerances and providing sufficient insulation from

environmental conditions. The hermetic properties of a ceramic shell are particularly suited to the second embodiment of the present invention which is described in detail below. A transparent lid 8 covers aperture 6. The term "transparent" is used broadly herein to include materials that allow the passage of visible light or other forms of radiation having a selected wavelength such as infrared or ultraviolet. Example materials for transparent lid 8 are plates of borosilicate or quartz glass; however, other glass, ceramic or plastic materials having suitable transmissivity are within the scope of the present invention. A plurality of castellated solder pads 10 is formed around the periphery of package shell 2, extending from a lower portion of shell side surfaces 12 onto the bottom surface 14 of the package shell 2 (FIG. 2) for mechanical attachment and electrical coupling of the image sensor package 1 to a carrier substrate such as a printed circuit board (PCB). This castellated solder pad arrangement is well suited for attachment of image sensor package 1 to a carrier substrate 100 using conventional automated assembly equipment. As can be seen in FIG. 3, solder pads 10 provide conductive bonds between image sensor package 1 and conductive elements 102 on carrier substrate 100 which may be easily inspected, and reworked and repaired if necessary. Solder pads 10 may be bonded to conductive elements 102 using reflowed tin/lead or silver solder, conductive or ~~conductor-~~ conductor-filled epoxy or other conductive bonding agents 104 which are well known in the art.

Please replace paragraph number **[0024]** with the following rewritten paragraph:

[0024] An encapsulant material 32 fills aperture 6, covering active surface 20 and pixeled microlenses 22. Encapsulant 32 serves to bond image sensor chip 18 to package shell 2, maintain bond integrity between conductive bumps 24 and terminal pads 26, and to protect the sides 34 of image sensor chip 18. Encapsulant 32 extends up to the top of aperture 6 where transparent lid 8 is mounted on top surface 4 of package shell 2 to cover aperture 6. A layer of encapsulant 32 further extends under and around the edges of transparent lid 8 to adhesively bond it in place on top surface 4. Encapsulant 32 may be a clear epoxy or other resin-type material like polymethylmethacrylate, polycarbonate or silicone, as long as it is suitably transmissive of light or other forms of radiation specific to the operation of image sensor chip 18

and is capable of adhesively bonding transparent lid 8. As indicated by FIG. 4, the sides 34 of image sensor chip 18 are partially encased in encapsulant 32 while the back 36 of image sensor chip 18 is left exposed. This encapsulation arrangement is acceptable for image sensor devices not likely to be subjected to extreme environmental conditions, and results in a simple and ~~cost~~ cost-effective package.